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# PUBLIC HEALTH REPORTS

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## **CEREBROSPINAL MENINGITIS EPIDEMIC.**

Cerebrospinal meningitis has become epidemic in certain localities in Arkansas, Tennessee, and the southern part of Illinois.

In Arkansas 25 cases, with 17 deaths, were reported at Lepanto, Poinsett County, during December and the first 6 days of January, and a few sporadic cases have been notified in other parts of the State.

In Tennessee there were 108 cases, with 47 deaths, reported in Dyer County to January 13. In Lake County there were 13 cases, with 9 deaths, to January 13. In Carroll County there were 4 cases during the 2 weeks ended January 11, with sporadic cases elsewhere in the State. There were 13 counties in the State in which 1 or more cases were reported during the month ended January 14.

In southern Illinois there were 11 cases, with 7 deaths, reported at Dale, in Alexander County, to January 10. Cases have also been reported at Cairo. Considerable agitation has arisen in connection with the appearance of the disease, and certain communities have established quarantine against other communities.

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## **FEDERAL PUBLIC HEALTH ADMINISTRATION.**

### **ITS DEVELOPMENT AND PRESENT STATUS IN THE UNITED STATES.**

By J. W. KERR, Assistant Surgeon General, United States Public Health Service.

The jurisdiction of the Federal Government in public health matters extends over foreign intercourse, interstate intercourse, Federal territory, and Federal administrative affairs, including protection of the Indian tribes.

### **FEDERAL HEALTH ADMINISTRATION IN RELATION TO FOREIGN INTERCOURSE.**

Federal health administration had for its fundamental object the prevention of the introduction of pestilential diseases. As long ago as May 27, 1796, a national law authorized the President to direct the

revenue officers and revenue cutters to aid in the execution of quarantine, and also in the execution of the health laws of the States. As a further means of aiding foreign commerce, provisions were made in successive navigation laws to promote the health and comfort of passengers at sea, and in 1798 provision was also made for the care and treatment of persons employed in the merchant marine.

*Foreign and insular quarantine.*—The necessity for more and more extensive Federal supervision over international traffic was made apparent by repeated epidemics. The first permanent quarantine law, passed April 29, 1878, was a result of the widespread and severe epidemic of yellow fever during the previous year. The passage of the law of February 15, 1893, was intimately associated with the outbreak of cholera in Europe in 1892, and the quarantine act of June 19, 1906, followed the epidemic of yellow fever in the Southern States in 1905. Under the above-mentioned laws and a few minor ones, there was finally developed the national system of quarantine as it exists to-day—a system the development of which occupied approximately 100 years.

All quarantine operations are conducted under the supervision of the Federal Government, and, with two or three exceptions, all stations are conducted by Federal officers. Under the above-mentioned laws, regulations have been issued which automatically become operative on the occurrence of outbreaks of infectious diseases. The necessity for the promulgation of quarantine against a particular foreign port is thus obviated.

Quarantine regulations prescribe the measures that shall be observed at foreign ports, at sea, and at domestic ports to prevent the introduction of infectious diseases. In foreign ports these regulations are required by law to be enforced by American consular officers, and at certain ports medical officers of the United States Public Health Service are detailed by the President for duty in American consulates to issue bills of health to steamships and to make reports on sanitary conditions and the prevalence of diseases. Among the ports where such medical officers are stationed may be mentioned Santiago, Chile; Callao, Peru; Guayaquil, Ecuador; Rio de Janeiro, Brazil; La Guaira, Venezuela; Habana, Cuba; Libau, Russia; Naples, Italy; Calcutta, India; Hongkong and Shanghai, China; and Yokohama, Japan. In order to facilitate the shipments of fruit, these officers are also on duty during certain seasons of the year in the ports of Central America and the West Indies.

Officers of vessels en route to the United States are required to observe specific regulations to preserve health, and, in the event of outbreaks of disease aboard, to take precautions to prevent its spread.

On arrival at domestic ports from abroad vessels are subject to quarantine inspection. The detailed requirements specified in quar-

antine regulations are not here described. Suffice it to say they include the hygienic measures to be taken with vessel, cargo, crew, and passengers to prevent infection from being carried ashore. The provisions of law relating to quarantine apply not only to the continental United States but to its island territory, and possessions.

*International sanitation.*—With the view to aiding commerce by the prevention of the spread of disease, the Federal Government participates in the benefit derived from international sanitary agreements. It contributes annually to the support of this work, the Public Health Service conforms to the agreements entered into, and through official channels strives to perfect them. As a means to this end, representatives of the Public Health Service are assigned as delegates of the United States to international sanitary conferences.

*Sanitary supervision of immigration.*—A long series of immigration laws have been enacted between the periods March 20, 1819, and February 20, 1907, their general objects from a hygienic standpoint being the improvement of the health and comfort of arriving aliens, and the development of a stronger race in the United States.

The medical inspection of immigrants is a Federal function performed by Federal officers. Some of these inspections are made abroad. In addition, the ship's manifests are required to contain certain data respecting the physical and mental condition of each alien, and reports must be made by the ship's officers of all diseases, injuries, births, or deaths occurring during the voyage.

On arrival at domestic ports, all aliens are required to undergo medical inspection, and for those suffering with disease, hospitals are maintained. The object of the medical supervision of immigration is to exclude the physically and mentally unfit, and especially the latter, who will endow their offspring with an unstable mentality, thereby bringing about the further increase of insanity in the United States.

#### FEDERAL HEALTH ADMINISTRATION IN RELATION TO INTERSTATE INTERCOURSE.

The administrative procedures in international sanitation having been established, and their further improvement assured, the great public health problems of the Nation are now of an interstate and intrastate character.

The Federal public health statutes are based upon, or are carefully in accord with that clause of the Constitution which gives the right to Congress to regulate commerce between the States. On account of the far-reaching effect of interstate intercourse on our national life, the field for public health activities on the part of the Federal Government is wide. But it must not be occupied in such manner as to usurp the power of the States or impair the efficiency of State and local public health authorities.

The first Federal statute relating to the public health provided that there should be cooperation between Federal and local authorities, and this principle has been recognized in all subsequent legislation and followed in its enforcement.

*Quarantine and sanitation.*—Under the quarantine act of February 15, 1893, the secretary is authorized to issue regulations for the prevention of the spread of infectious and contagious diseases from one State to another, where the regulations of the States are inadequate. These regulations may be enforced by State and local authorities, but the Federal Public Health Service is authorized to cooperate in their enforcement, and should the States fail or refuse, the President may adopt such measures as in his judgment shall be necessary.

The powers under the above-mentioned statutes are broad, and the extent of their enforcement by the Federal Government depends on the facilities provided, the necessities in each case, and the state of public opinion in respect to the advantages of sanitation. Examples of work of this character that may be mentioned are cooperative measures for the collection and examination of rodents to prevent plague; antityphoid campaigns in urban and rural districts, and sanitary surveys of interstate and international waters in relation to the prevention of the spread of typhoid fever. There are great possibilities of extending work of this character, and it is along these lines that Federal public health work may be expected to advance.

There is necessity not only of quarantine measures to prevent the spread of communicable diseases, but sanitary measures to prevent their propagation. These include the sanitation of trains and vessels and the supplies used aboard, the regulation of conditions under which the employees of common carriers work, and the exclusion of dangerous or infected merchandise from transportation. The limitations of the Federal laws in this respect may be determined only by judicial interpretation.

*The control of epidemics.*—On account of the relation of epidemics to the hygienic and commercial welfare of the country, the Federal Public Health Service may, under the provisions of the above-mentioned law, assume responsibilities in respect to their control under the direction of the Secretary of the Treasury and the President. In the event of outbreaks of cholera, yellow fever, smallpox, plague, or typhus fever in any part of the United States, the President is also authorized to cause sanitary regulations to be issued and enforced to prevent their spread, and an epidemic fund of approximately half a million dollars is appropriated annually for expenditures of the Federal Public Health Service in suppressing epidemics of these diseases.

It is under such authority that the epidemics of yellow fever in the Southern States, the outbreaks of plague in California and our island

possessions, and similar outbreaks have been handled. In every instance, however, there has been thorough cooperation on the part of the Federal, State, and local authorities. The equity of our form of Government requires that the two latter shall exercise their police powers to the fullest extent, and it is on request of these authorities that the Federal Government goes to their assistance. This may be advisory in character, or may assume a more active form.

When material aid is extended, the Government's funds are required to be expended by officers of the Federal Public Health Service, and these latter are therefore placed in charge, and have the cooperation of State and local officials as well as officers of the Federal Government.

The occurrence of epidemics affords opportunity for investigations of an epidemiologic character, and advantage is taken of such situations. As an example may be mentioned the studies of plague in California and typhus fever in Mexico City.

*Control of biologic products in interstate traffic.*—The dangers to the public health from the exploitation of contaminated or inert biologic products impelled Congress to pass the act of July 1, 1902, regulating the propagation and sale in interstate traffic of viruses, serums, toxins, and analogous products. By its provisions, licenses are issued to establishments to engage in such traffic. Prior to the issue of licenses inspections are made of each establishment by officers of the United States Public Health Service, and examination is made of all products for which license is desired. These examinations are repeated from time to time, samples obtained in the open market being used.

Under the law, regulations are issued governing inspections of establishments, examinations of their products, the issue of licenses, and the compliance with adopted standards of purity and potency. Samples accompanying each importation of any of the biologic products in question are required to be examined before release by customs officers. By this means only is it practicable to prevent the dissemination of those biologic products which may be the means of conveying infections that give rise to disease.

*Supervision of foods and drugs.*—In the interest of foreign commerce, meat products prior to shipment abroad have for some years been subject to inspection, and on June 30, 1906, provision was made by Congress to prevent the use in interstate traffic, as well as foreign traffic, of meat products which are unsound, unwholesome, or unfit for human food. The enforcement of these laws devolves upon the Bureau of Animal Industry of the Department of Agriculture. All establishments affected by the law are required to be inspected; the animals slaughtered and the meat produced from

them are also subject to inspection, and regulations are prescribed for the sanitation of establishments engaged in the meat industry.

On June 30, 1906, there was also enacted by Congress the law to prevent the manufacture and sale in interstate traffic of impure foods and drugs. This law is enforced by the Secretary of Agriculture through the Bureau of Chemistry of that department.

#### COLLECTION AND COLLATION OF SANITARY INFORMATION.

The successful administration of public-health laws depends essentially upon a knowledge of the existence and current prevalence of communicable diseases, the conditions that favor their propagation and spread, and the measures that are required for their control.

Information is received by the Federal Public Health Service from American consuls throughout the world regarding dangerous diseases that exist or are epidemic in foreign ports. For this purpose the telegraph is resorted to, and in addition reports are made weekly by mail. In addition, special reports are made of matters pertaining to hygiene in the respective foreign countries.

Of even greater importance to the health of the country are the collection and collation of sanitary information and reports regarding the prevalence of diseases and the occurrence of epidemics within the States. This work on the part of the Federal Government is carried on with the voluntary cooperation of State and local authorities.

Reports of births and deaths are compiled by the Census Bureau. Sanitary information and reports of the occurrence and prevalence of disease are collected and published by the United States Public Health Service.

The extent to which notification of cases of sickness can be carried depends upon the facilities provided the Federal Public Health Service and, primarily, upon the development of local health organization within the respective States. The difficulties encountered in the enforcement of the notification of cases of disease in the United States are not unlike those encountered by sanitary authorities abroad, but in overcoming them there will be performed the most important duty in connection with the preservation of the public health.

#### INVESTIGATIONS OF MATTERS PERTAINING TO THE PUBLIC HEALTH.

Another important function of the Federal Government in relation to the public health, and perhaps the most important one, is the conduct of scientific investigations. By this means Federal administration in public-health matters is simplified and rendered more accurate; local authorities are likewise aided, and through them the

people are benefited by being taught the degree of sanitary excellence that may be attained.

By an act of March 3, 1901, investigations of contagious and infectious diseases and matters pertaining to the public health were given definite status in law. Provision was made whereby laboratory investigations would be systematically carried on. Through this provision and in connection with the enforcement of the quarantine laws investigations have been made in Washington and different parts of the country. In order to comply with the law, however, this work was carried on largely through the Hygienic Laboratory.

By an act of Congress approved August 14, 1912, broader powers were conferred on the Public Health Service to "study and investigate the diseases of man and conditions influencing the propagation and spread thereof, including sanitation and sewage and the pollution either directly or indirectly of the navigable streams and lakes of the United States."

There is thus abundant authority for both laboratory and field investigations by the Public Health Service. As in the past the investigations will be conducted by officers specially trained and with such cooperation as State and local health authorities may be able to render. But in order that the great needs of the country may be met, more men and more money must be provided and the Public Health Service must have the active support of individuals, professional associations, and other organizations to be benefited.

Many highly important problems await solution. Among them may be mentioned the standardization of biologic and other therapeutic products, the determination of the conditions causing pellagra and certain other diseases, the extent of the migrations of tuberculous and other patients from one locality to another, the ascertainment of the influence of artificial illuminants on health, the determination of the relation of housing and other conditions to labor efficiency, and the prescribing of reasonable standards to control stream pollution.

Requests are received daily from all parts of the country for information regarding sanitary problems and their method of handling. These requests are an excellent indication of the amount and extent of work to be performed in the immediate future. In one section of the country the question of the pollution of streams is pressing for solution; in another, it may be industrial accidents and poisoning; in another, the question of the reduction of infant morbidity; and in still another, the measures that must be taken to eradicate malaria or other communicable disease. Federal health administration involves a wise selection of the problems to be investigated and the securing of appropriations necessary to carry them on.



**DISSEMINATION OF INFORMATION RELATING TO THE PUBLIC HEALTH.**

Sanitary reports and statistics and the results of scientific investigations are of value only as they are made public and used. An important administrative measure, therefore, is the distribution of public health literature and the presentation of public health lectures and exhibits. By these means the Federal Public Health Service has been able to disseminate a considerable amount of sanitary information and participate in the educational propaganda.

Among the publications issued are the Hygienic Laboratory Bulletins, bulletins of the Yellow Fever Institute, Public Health Bulletins, the weekly Public Health Reports, and miscellaneous documents. The Hygienic Laboratory Bulletins represent the results of scientific investigations conducted in the laboratory. The Public Health Bulletins are more popular in character, and are utilized to convey sanitary information to health officials and to the public generally. The weekly Public Health Reports are issued primarily for the benefit of health authorities as an aid in administration. Their utility is recognized throughout the world, and their improvement as contemplated will render them the most useful organs in health administration in this country.

The Public Health Bulletins are to be further popularized and made of interest to individuals, and they should be distributed by millions. The recognition by the Secretary of the Treasury of the value of public health education, and his deep interest in sanitary administration generally, has been responsible for a material increase recently in the amount of public health literature issued and, indeed, in the amount of scientific and practical sanitary work performed.

**HEALTH ADMINISTRATION IN RELATION TO FEDERAL TERRITORY  
AND FEDERAL ADMINISTRATIVE AFFAIRS.**

Administrative measures taken in the interest of international and interstate sanitation, and the investigations conducted in relation thereto, have a direct or indirect value in connection with Federal administration generally. But in Federal territory and in relation to Federal administrative affairs special provision is also made. The sanitation of the military forces is performed by their respective medical corps. Sanitary inspections of Government buildings and workshops to control tuberculosis devolves on the Public Health Service, and through cooperation it performs under regulations sanitary duties for other bureaus and departments.

The extent to which this cooperation may be rendered depends on the number of officers available, since the Comptroller of the Treasury has decided in effect that officers of the Public Health Service may undertake public health duties for other bureaus providing the

expenses are borne by those bureaus. Under this provision, for instance, steps are being taken for the sanitary betterment of the Indians in Alaska, and inspections have been made of mines and the mining industry with particular reference to lung diseases among miners and the measures necessary for their control.

#### ORGANIZATION OF THE FEDERAL PUBLIC HEALTH SERVICE.

The Federal Public Health Service is a bureau of the Treasury Department. Through successive acts of Congress it has undergone a process of evolution so that all of its duties are essentially of a public health character, and it is organized with a view to their performance.

The central bureau at Washington, which is presided over by the Surgeon General, has seven divisions, as follows:

1. Personnel and Accounts.
2. Foreign and Insular Quarantine and Immigration.
3. Domestic (Interstate) Quarantine and Sanitation.
4. Sanitary Reports and Statistics.
5. Scientific Research.
6. Marine Hospitals and Relief.
7. Miscellaneous.

Each of the six divisions first mentioned is in charge of an assistant surgeon general, who is directly responsible for administrative matters in connection with his division. In the absence of the Surgeon General the officer next in rank acts in his stead. This is the officer who has charge of the Division of Personnel and Accounts, and who has immediate supervision of the entire personnel and appropriations, and the preparation of the annual estimates therefor.

Through the Division of Foreign and Insular Quarantine and Immigration are administered all matters relating to maritime quarantine and medical inspections of aliens. In the field this division is represented by 44 quarantine and inspection stations scattered along the several coasts in the continental United States, 25 insular stations, and 37 stations located at foreign ports, and 83 immigration stations.

Through the Division of Interstate Quarantine are administered all matters relating to the control of contagious and infectious diseases in interstate traffic. In the field this division is represented by officers engaged in the inspection of Government buildings, suppression of plague outbreaks, and control of epidemics of typhoid fever and other diseases in cooperation with State and local authorities.

The Division of Sanitary Reports and Statistics handles all matters relating to the collection of morbidity reports, reports of epidemics, and of information pertaining to the geographic distribution of disease, and to climate in relation to health and disease. It prepares and publishes the weekly Public Health Reports and reprints therefrom.

In the field it is represented by officers of the service wherever stationed, and through the Department of State by American consuls at foreign ports. In the United States it depends largely on the voluntary cooperation of State and municipal authorities to furnish information and forward reports of sanitary conditions within their respective jurisdictions.

The Division of Scientific Research administers all matters relating to investigations of contagious and infectious diseases and matters pertaining to the public health wherever made. In the field it is represented by the Hygienic Laboratory with its four divisions, the plague laboratory in San Francisco, the leprosy investigation station in Hawaii, the pellagra investigation station at Savannah, Ga., the station at Wilmington, N. C., for the investigation of the parasites of man, and by officers engaged in investigations of typhoid fever, Rocky Mountain spotted fever, poliomyelitis, etc., in different parts of the country, and sanitary surveys of navigable waters wherever conducted.

In the Division of Marine Hospitals and Relief are administered all matters connected with the care and treatment of seamen and recruiting for the several bureaus of the department. In the field it is represented by 22 marine hospitals and 121 relief stations.

In the Miscellaneous Division are handled all matters in relation to the care and distribution of publications, and to the examinations of surfmen of the Life-Saving Service, and to claims for disability in that service.

To-day the Public Health Service has a corps of approximately 450 medical officers, 50 pharmacists, and a total personnel of about 2,000.

*Advisory conferences on administrative matters.*—Under the Constitution and existing statutes, the Federal Public Health Service is restrained from assuming duties that properly devolve upon State and municipal authorities. But their relations are so intimate that Congress has made provision not only for cooperation, but for conferences on public health matters. In the public health law of July 1, 1902, provision is made for annual conferences between the Public Health Service and State boards and departments of health. Provision is also made for special conferences with all or a part of the State health organizations, and upon the application of not less than five State health authorities, a special conference must be called. The deliberations pertain particularly to administrative measures. In effect, there is thus provided an advisory council on administrative matters, which in its development will insure cooperation and be an arbiter on vexed sanitary questions, and in which each State is entitled to representation.

*Advisory conferences on scientific matters.*—In the previously mentioned law Congress also provided for an advisory board for consulta-

tion relative to investigations to be inaugurated and the methods of making them in the Hygienic Laboratory. This board consists of 9 members, 4 of whom are officers of the Government, the remaining 5 being scientists eminent in laboratory work and connected with the leading endowed institutions of the country. By this means the service is brought in touch with the great scientific laboratories, and may avail itself of advice from the highest sources.

Congress has thus made provision for councils in respect to both administrative and scientific matters. Their utilization in the highest degree is one of the most important means of development of public-health organization and public-health work.

The foundations have been laid for further development and for the performance of a greater amount of efficient sanitary work. In order that health administration shall be effective, however, it must be adequately supported by appropriations, and it is the securing of these and their wise expenditure that constitute efficient administration.

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## HOOKWORM DISEASE.

### NUMBER OF TREATMENTS AND NUMBER OF FULL DOSES OF THYMOL ADMINISTERED IN 61 HOSPITAL AND 22 HOME-CURED CASES OF HOOKWORM INFECTION.<sup>1</sup>

By CH. WARDELL STILES, Professor of Zoology, and GEO. F. LEONARD, Assistant, <sup>2</sup> Hygienic Laboratory, United States Public Health Service.

In this paper the term "cured" means that a week or more after treatment a microscopic reexamination of the patient gave negative results.

In practical hookworm-eradication work the question is frequently asked, "How long does it take to cure a case?" This question has a practical basis from the standpoint of the patients, for many of them refuse to take a second course of medication. From the standpoint of the person giving the treatment the question has a double significance: (1) The greater the number of patients who can be cured in a single treatment the more rapidly will a certain—and a very important—part of the work be finished. (2) Many patients are, however, very ignorant and can not be relied upon—as experience shows—to carry out directions; accordingly, the clinician has his choice between (a) assuming a certain amount of risk by giving a larger dose, and (b) giving repeated treatments with smaller doses, thus giving to himself and to the patient a greater amount of trouble but at the same time increasing the factor of safety for his patient; running the risk, however, that his patient will not return for more than one treatment, and therefore possibly leaving one more uncured case at large to infect other people.

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<sup>1</sup> Read at the XVth International Congress on Hygiene and Demography, Washington, September, 1912.

<sup>2</sup> With North Carolina State Board of Health since June 1, 1912.